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Appl. No. 10/042,726
Amdt. Dated April 30, 2004
Reply to Office Action of January 7, 2004

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

A replacement drawing sheet, including FIG. 1-3 was submitted with the Amendment in Response to the First Office Action filed on October 27, 2003. The Examiner objected to the replacement drawing sheet because proposed changes to the drawing figures were not shown in red. During a telephone call with the Examiner on January 16, 2004, it was noted that the current version of 37 CFR 1.121(d) permits drawing changes to be submitted as replacement sheets and that the Rule no longer requires proposed changes be shown in red. Accordingly, Applicants believe the objection to the amended drawing figures is withdrawn and respectfully request acceptance of the replacement drawing sheet including FIG. 1-3 filed on October 27, 2003.

The Claims are 4-6. The Examiner rejected claims 4-6 as being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent 3,459,029 to Roscnfeld et al. in view of U.S. Patent No.

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3,750,618 to Griebenow. The Examiner's position was essentially that Rosenfeld et al. discloses a crimping pliers substantially as claimed except for the feature of a second scale for the rough adjustment of the punches. Griebenow was said to disclose a mechanism for the rough and fine adjustment of tools. It was the Examiner's position that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the crimping tool of Rosenfeld et al. with the adjusting mechanism of Griebenow.

The rejections are respectfully traversed.

Claim 4 has been amended to more clearly define the invention.

Rosenfeld et al. discloses an adjustable crimping tool wherein the crimp depth is adjusted by varying the allowable movement of the plier handles or legs, thereby adjusting an opening angle of the pliers. This is accomplished by moving a stop block 74 longitudinally along the plier handle or leg via a rotating threaded shaft 72 coupled to an adjusting knob 48. (See col. 4, lines 22-32)

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The adjustable crimping pliers as claimed in the present application, however, differ considerably from the crimping pliers of Rosenfeld et al. in their structure, operation and design. In the crimping pliers as defined in amended claim 4 of the present application, the stroke or work path of the crimping punches is directly and precisely adjusted by pivoting or rotating a curved body forming the control cams which guide the crimping punches while maintaining a fixed opening angle of the crimping pliers.

This characteristic of the present invention is accomplished as recited in claim 4, by a "threaded bush transversely extending through ... [an] arm component" extending from the curved body. The threaded bush is "rotatably engaged" with a threaded spindle to which a setting wheel is secured. When the threaded spindle is rotated via the setting wheel, the arm component is displaced, pivoting the curved body including the control cams. In this way the work path of the crimping punches is precisely adjusted without changing the opening angle of the plier legs.

As discussed above, the adjustable crimping tool disclosed in Rosenfeld et al. cannot adjust the work path of the crimping

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punches without changing the opening angle of the plier legs as described in claim 4 of the present application. Rather, the Rosenfeld et al. device works by adjusting the allowable movement of the plier handles through a stop block mechanism.

More particularly, as shown in FIG. 2, the curved body 25 forming the control cams 26 of Rosenfeld et al. is integral with arm component 22 to which plier handle 46 is fixed. Accordingly, the curved body of the Rosenfeld et al. device cannot be pivoted or rotated independently of opening the plier legs and the work path of the crimping punches cannot be adjusted while maintaining a fixed opening angle of the crimping pliers as in the claimed invention.

Notably, the Rosenfeld device lacks the feature of a threaded bush transversely extending through an arm component of a curved body as recited in claim 4 of the present application. The threaded bush 72 of Rosenfeld et al. extends through a stop block 74 which adjusts the opening angle of the plier legs and does not transversely extend through arm component 22 of curved body 25.

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As discussed in the specification of the present application beginning at page 2 paragraph 2, this type of fixed stop setting device has proved insufficient in terms of setting accuracy for the highly precise crimping required for example in the modern electronics industry. The multiple coupling and linkages of the Rosenfeld et al. type device detract from the precision with which the work path of the crimping punches can be adjusted. The adjusting and setting device of the crimping pliers as claimed in the present application, however, is simpler in structure, does not require the intermediate linkages or coupling and permits greater adjustment precision.

The deficiencies of Rosenfeld et al. are not remedied by Griebenow. Griebenow discloses a positioning device for adjusting the movement of tool carriers in machine tools. The Griebenow device comprises a spindle mounted in a housing fixed to the tool carrier. The device includes scales for rough and fine setting of the positioning device and a step down gear for driving the rough scale ring with the spindle.

The positioning device of Griebenow is not suitable for use with hand held pliers of the present invention due to its

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prohibitively large size and cost and complicated structure. Accordingly there exists no suggestion or motivation to combine the positioning device of Griebenow with the adjustable crimping tool of Rosenfeld et al.

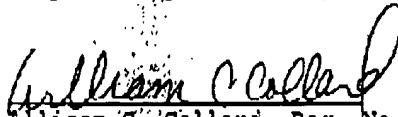
Furthermore, even if the positioning device of Griebenow is combined with the crimping pliers of Rosenfeld et al., one skilled in the art would not arrive at the invention as defined in claim 4. As described above, the adjustment mechanism of the Rosenfeld et al. device which varies the allowable opening angle of the pliers is fundamentally different in operation from the adjusting and setting device of the claimed invention wherein precise adjustment is accomplished while maintaining a fixed opening angle of the pliers.

For the foregoing reasons, Applicants believe the cited references, taken alone or in combination, do not disclose or suggest the invention as claimed in the present application and that remaining claims 4-6 as amended overcome the rejections of

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the Examiner. Accordingly, Applicants respectfully request early allowance of the remaining claims.

Respectfully submitted,



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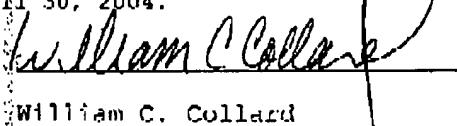
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